



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

dw

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,445	09/19/2003	Artur G. Olszak	P 6121.13044	8360
7590	04/05/2004		EXAMINER	
William A. Birdwell Birdwell, Janke & Durando, PLC 1100 SW Sixth Avenue, Suite 1400 Portland, OR 97204			LUU, THANH X	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 04/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/666,445	OLSZAK ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thanh X Luu	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 12 March 2004.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-103 is/are pending in the application.  
 4a) Of the above claim(s) 1-38 and 61-93 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 39-60 and 94-103 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 19 September 2003 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>012004</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of claims 39-60 and 94-103 in Paper No. 032004 is acknowledged.
2. Claims 1-38 and 61-93 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 032004.

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the plurality of A/D converters and the converters receiving the correction signals must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Fig. 10 simply shows a single A/D converter. Examiner recommends changing the label to --A/D converters--.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
5. The disclosure is objected to because of the following informalities:

The various occurrences of "D/A" in the specification should be changed to --A/D--  
- as there are no digital to analog converters in the invention.

Appropriate correction is required.

***Claim Objections***

6. Claims 39, 40, 42, 60 are objected to because of the following informalities:

In claim 39, it is unclear if "a plurality of light detectors" in the body of the claim refers to a plurality of light detectors in the preamble. Examiner recommends using --the plurality of light detectors--.

In claims 40 and 42, it is unclear if "an image" is the same image of the object as claimed in claim 39. Examiner recommends using --the image--.

In claim 60, "multiply one or more of said output values a respective error correction value" is grammatically incorrect.

In claim 96, "multiplying one or more of said output values a respective error correction value" is grammatically incorrect.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 42, 54, 55 and 94 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 49, "the equalizing system" lacks proper antecedent basis.

Regarding claim 54, "said set of said plurality of light sources" lacks proper antecedent basis. Further, it is unclear in its given context how "an array of individual light-emitting sources" and "a plurality illumination light sources" and "said set of said plurality of light sources" are related or how many light sources are present in the invention.

Regarding claim 5, "said equalizing system" lacks proper antecedent basis.

Regarding claim 94, "the output values" and "said given amount of input power" lacks proper antecedent basis. Further, it is unclear if "a photo-electric imaging system" refers to the same system mentioned in the preamble or not.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 39-46, 48, 60, 94 and 96 are rejected under 35 U.S.C. 102(b) as being anticipated by Walsh et al. (U.S. Patent 5,443,164).

Regarding claims 39-46, 48, 60, 94 and 96, Walsh et al. disclose (see Figure 4) an equalization system, comprising: a signal conditioning circuit (100, 102) for receiving and digitizing output signals from a respective set of a plurality of light detectors (CCD) so as to produce a set of output values; and an equalizer system (104, 106) for equalizing the respective set of output values for a given amount of optical input power (see Figure 1; at 28 or 32) supplied to the detectors. Walsh et al. also disclose (see

Figures 1 and 4) a method for equalizing output values of a photo-electric imaging system for a given amount of input power, comprising: supplying a given amount of input power to an illumination light source (28 or 32); receiving and digitizing (100, 102) output signals from a respective set of a plurality of light detectors (CCD) so as to produce a respective set of output values; and equalizing (104, 106) the set of output values for the given amount of input power. In addition, Walsh et al. disclose (see Figure 1) both an epi-illumination system (reflected light detection system with CCD 22) and an trans-illumination system (transmitted light detection system with CCD 24). Also, Walsh et al. disclose (see Figure 1) the light source comprises an array of individual light-emitting sources (28 and 92) corresponding to the respective light detectors, and wherein the light source (92) is a single axis illumination system and is an extended light source (fluorescent lamp). Walsh et al. also disclose (see column 7, lines 60-62) adjusting or multiplying one or more of the output values with a respective error correction values to produce new respective values as claimed.

11. Claims 39, 46, 49, 50, 94, 97 and 98 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki (U.S. Patent 5,801,763).

Regarding claims 39, 46, 49, 50, 94, 97 and 98, Suzuki discloses (see Figures 1 and 10) an equalization system, comprising: a signal conditioning circuit (2, 11) for receiving and digitizing output signals from a respective set of a plurality of light detectors (1) so as to produce a set of output values; and an equalizer system (22; see Figure 10) for equalizing the respective set of output values for a given amount of optical input power supplied to the detectors. Walsh et al. also disclose (see Figures 1

and 10) a method for equalizing output values of a photo-electric imaging system for a given amount of input power, comprising: supplying a given amount of input power to an illumination light source (6); receiving and digitizing (2, 11) output signals from a respective set of a plurality of light detectors (1) so as to produce a respective set of output values; and equalizing (22) the set of output values for the given amount of input power. Suzuki also discloses (see Figure 10) a set of amplifiers (21-26) corresponding to the set of light detectors which apply gain to the output signals prior to digitization and the equalization system provides correction signals to the amplifiers based on the output values so as to equalize the output values for the given amount of input power.

12. Claims 39, 42, 43, 46, 54, 55, 94 and 102 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al. (U.S. Patent 5,051,574).

Regarding claims 39, 42, 43, 46, 54, 55, 94 and 102, Yoshida et al. disclose (see Figure 4) an equalization system, comprising: a signal conditioning circuit (16, 13b) for receiving and digitizing output signals from a respective set of a plurality of light detectors (2 in 12) so as to produce a set of output values; and an equalizer system (13a) for equalizing the respective set of output values for a given amount of optical input power supplied to the detectors. Yoshida et al. also disclose (see Figure 4) a method for equalizing output values of a photo-electric imaging system for a given amount of input power, comprising: supplying a given amount of input power to an illumination light source (11); receiving and digitizing (16, 13b) output signals from a respective set of a plurality of light detectors (2 in 12) so as to produce a respective set of output values; and equalizing (13a) the set of output values for the given amount of

input power. In addition, Yoshida et al. disclose (see Figure 4) an trans-illumination system. Also, Yoshida et al. disclose (see Figure 4) the light source comprises an array of individual light-emitting sources (1) corresponding to the respective light detectors, and wherein the light source (11) is a single axis illumination system (one instance of 1) or is an extended light source (multiple instances of 1). Yoshida et al. also disclose (see column 3, lines 50-65) a power supply adapted to supply to the light sources respective amounts of power that have relative magnitudes with respect to one another and the equalizer adjust the amounts of power as claimed.

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 47, 51-53, 55, 95 and 99-101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Li (U.S. Patent 6,577,775).

Regarding claims 51-53 and 99-101, Suzuki discloses the claimed invention as set forth above. Suzuki does not specifically disclose adjusting an offset or a gain and offset. Li teaches (see Figure 4) adjusting a gain and/or offset in order to equalize the intensity of an image. Still further, using A/D converters to offset a signal is well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide such adjustments in the apparatus of Suzuki in view of Li to provide more precise equalization and improve image detection.

Regarding claims 47, 59 and 95, Suzuki discloses the claimed invention as set forth above. Suzuki does not specifically disclose adding for equalization. Li teaches (see column 2, lines 59-60) adding a value to equalization. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to add a value to achieve equalization in the apparatus of Suzuki in view of Li to provide more precise equalization and improve image detection.

15. Claims 58 and 103 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Walsh et al. or Suzuki in view of Bamberger et al. (U.S. Patent 5,970,164).

Regarding claims 58 and 103, Walsh et al. or Suzuki discloses the claimed invention as set forth above. Walsh et al. and Suzuki do not specifically disclose non-linear equalization as claimed. Bamberger et al. disclose (see column 11, lines 55-60) non-linear equalization to improve image contrast. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide non-linear equalization in the apparatus of Walsh et al. or Suzuki in view of Bamberger et al. to provide an improved contrast image as desired.

16. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al.

Regarding claim 56, Yoshida et al. disclose the claimed invention as set forth above. Yoshida et al. further disclose (see Figure 4) an amplifier for applying gain before A/D conversion. Yoshida et al. do not specifically disclose a set of amplifiers for each detector as claimed. However, it is well known to provide dedicated amplifiers for

a plurality of detectors in order to obtain faster processing. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a set of amplifiers in the apparatus of Yoshida et al. to improve speed in processing as desired.

***Allowable Subject Matter***

17. Claim 57 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

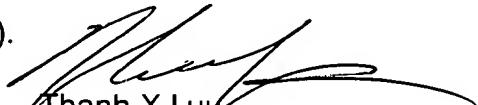
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X Luu whose telephone number is (571) 272-2441. The examiner can normally be reached on M-F (6:30-4:00) First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 2878

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanh X Luu  
Primary Examiner  
Art Unit 2878

03/04